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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

1 RECORD OF ORAL HEARING

2  
3 UNITED STATES PATENT AND TRADEMARK OFFICE

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5  
6 BEFORE THE BOARD OF PATENT APPEALS  
7 AND INTERFERENCES

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9  
10 Ex parte TAKASHI TAKEDA, KENJI ONO, and SUSUMU MIYAZAKI

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12  
13 Appeal 2009-003716  
14 Application 10/525,014

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17 Oral Hearing Held: Tuesday, June 9, 2009

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21 Before CHUNG K. PAK, KAREN M. HASTINGS and MICHAEL  
22 COLAIANNI, Administrative Patent Judges

23  
24  
25  
26 ON BEHALF OF THE APPELLANTS:

27  
28 JOHN T. CALLAHAN, ESQ.  
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32  
33

1           The above-entitled matter came on for hearing on Tuesday,  
2   June 9, 2009, commencing at 9:15 a.m., at the U.S. Patent and Trademark  
3   Office, 600 Dulany Street, 9th Floor, Hearing Room A, Alexandria,  
4   Virginia, before Kevin Carr, Notary Public.

5           JUDGE PAK: Mr. Callahan, welcome.

6           MR. CALLAHAN: Thank you.

7           JUDGE PAK: We have a court reporter, Kevin Carr, with us  
8   today. He is going to transcribe the entire hearing, and that transcript will  
9   become part of the record. You have 20 minutes and you may start any time  
10   you wish.

11          MR. CALLAHAN: Thank you. If I may just organize my file  
12   for a second. Good morning, and may it please the Board. My name is John  
13   Callahan and this is the appeal in serial number 10/525,014. The claims that  
14   are pending in this application are claims 3 through 6. Claims 3, 4, and 6  
15   have been allowed by the Examiner. Claim 5 has been rejected under 35  
16   U.S.C. Section 102(b) as anticipated by a single reference, EP 21536. The  
17   sole issue on appeal is whether the rejection of claim 5 as anticipated by EP  
18   ‘536 is correct. Claim 5 of the Application recites a vacuum ultraviolet  
19   radiation excited light emitting device, comprising a phosphor of a certain  
20   formula. The phosphor formula is recited in claim 5.

21          And I think I can save the Board some time by pointing out that  
22   referring to example 1 of the EP reference, M1 would include calcium. E  
23   may be zero.

1 JUDGE PAK: Counsel, you are actually arguing that EP '536  
2 teaches your invention except for the claimed vacuum ultraviolet radiation  
3 excited light emitting device, am I correct?

4 MR. CALLAHAN: Yes, I believe that's correct. I think the  
5 issue is whether the VUV, which is the vacuum ultraviolet radiation excited  
6 light emitting device of claim 5 -- and I'm referring to that language which is  
7 in the preamble as opposed to the phosphor definition -- reads on the device  
8 as described by the EP reference. So I think, Judge, that is correct that that's  
9 the issue on appeal.

10 JUDGE PAK: And you are relying on the phosphor handbook  
11 definition for the meaning of the claimed vacuum ultraviolet radiation light  
12 emitting device?

13 MR. CALLAHAN: Well that's correct, Judge. We did submit,  
14 during the prosecution, a copy of certain pages from the phosphor handbook,  
15 which indicates, for the claimed VUV, the wavelength range is less than  
16 200 nanometers.

17 JUDGE PAK: And the Examiner is relying on other US patents  
18 to show that the claimed ultraviolet radiation light emitting device includes  
19 those having 254 wavelength, which is inclusive of the light emitting device  
20 taught by the European patent?

21 MR. CALLAHAN: It is correct that the Examiner pointed to  
22 two additional documents. I think it might be too strong to say that she  
23 relied upon them. In fact she was careful I believe in her advisory action to  
24 indicate that she wasn't relying upon them in the sense of relying upon them  
25 in a rejection. I can point out that language for you if you'd like. But she

1 did point to two other references, which I believe in her opinion showed that  
2 a low-pressure mercury lamp, which is the device that is taught by the  
3 reference, in her words *emits radiation at 185 nanometers*. Now of course  
4 185 nanometers is within the range that I just defined for the claimed VUV,  
5 or vacuum ultraviolet radiation. But I think what needs to be appreciated  
6 and unfortunately the Examiner's position in that regard came up, as I said  
7 relatively late in the context of an advisory action, but I think it needs to be  
8 appreciated that while a low-pressure mercury lamp may be capable of the  
9 emitting radiation at 185 nanometers, the relative spectral radiation of the  
10 device is quite low at that wavelength.

11           So as the reference EP 536 indicates the emission is  
12 predominantly 254 nanometers. So what that means is, if I can refer to  
13 something that I brought with me, it's known that the relative spectral  
14 radiance of a low-pressure mercury lamp is predominantly 254 nanometers  
15 and also includes emission and 185 nanometers. But the relative spectral  
16 irradiance of 185 nanometers is quite low. If 254 nanometers is considered  
17 1., and these charts include so-called arbitrary units, the value for the  
18 emission at 185 nanometers would be approximately 0.25. If the Board  
19 thought it would be helpful I could perhaps approach the Board and show  
20 you this document that I brought with me. It's not part of the record.

21           JUDGE PAK: You don't need to. We decide on the record.

22           MR. CALLAHAN: Sure. Well, I think actually what you just  
23 said is very important. Because I think the issue for the Board in this case in  
24 order to affirm the Examiner is whether, based upon the evidence of record  
25 the Board can make a factual finding that the low-pressure mercury lamp of

1 EP 536 functions in such a way whereby the luminescent screen of that  
2 device is actually excited by the VUV emission at 185 nanometers. And I  
3 would submit to the Board that that is not in the record. The claim as I  
4 pointed out is directed to a vacuum ultraviolet radiation excited --

5 JUDGE PAK: Counsel, what about the other reference cited by  
6 the Examiner providing the definition as to the meaning of the vacuum  
7 ultraviolet radiation light emitting device that is inclusive of the light  
8 emitting device producing 254 nanometer wavelength?

9 MR. CALLAHAN: Yeah, that's correct that she did refer to  
10 those other documents. I think you are referring to the 093 publication. And  
11 the text that she highlighted was *a light source for the vacuum ultraviolet*  
12 *light may be selected from an Excimer lamp, a low-pressure mercury lamp,*  
13 *and other various light sources.* But our position on that would be whether  
14 or not the low-pressure mercury lamp in the EP reference functions as or  
15 acts as the claim requires, meaning a vacuum ultraviolet excited light  
16 emitting device, is a whole other question.

17 And the reason I say that is whether or not the device functions  
18 in that way depends upon the characteristics of the device. For example it's  
19 known in the technical literature that the 185 nanometer emission depends  
20 upon, for example, whether a synthetic quartz is used as the lamp material in  
21 the low-pressure mercury lamp. So our position would be that the reference  
22 is lacking as to the details of the lamp itself which would enable one skilled  
23 in the art to understand whether or not that device would function as a  
24 vacuum ultraviolet radiation excited light emitting device. It is the case that  
25 low-pressure mercury lamps have an emission that is predominantly 254

1 nanometers and also includes a low spectral irradiance emission at 185  
2 nanometers. As a factual matter whether that would operate as a VUV  
3 radiation excited light emitting device, I would submit to the Board is a  
4 whole other question, and is entirely unclear from the Examiner's rejection.

5 JUDGE PAK: Counsel, I am referring to the US patent referred  
6 to by the Examiner, which defines ultraviolet light as having a wavelength of  
7 254 nanometers. That means even assuming that your argument is correct  
8 that the EP patents light emitting device produces primarily an emission  
9 having 254 nanometer wavelength, that according to this definition of this  
10 other US patent referred to by the Examiner that the European patent device  
11 is in fact your claimed device.

12 MR. CALLAHAN: I'm not sure that I heard the beginning of  
13 the question but I think I understood what you were suggesting. But I think  
14 it has to be recognized that depending upon the structure of the low-pressure  
15 mercury lamp of the EP device it may or may not be functioning that way  
16 such that the 185 nanometer emission is actually exciting the luminescent  
17 material on the luminescent screen. Because it's known in the art that that  
18 depends on how the lamp is constructed. Because again, as I mentioned  
19 earlier, when using a synthetic quartz as a lamp material, VUV radiation at  
20 185 nanometers may be emitted by the device. But that's unclear from the  
21 reference. So my point is simply that the Examiner has chosen to make an  
22 anticipation rejection, but I think the reference is unclear as to the totality of  
23 the elements of claim five.

24 Putting aside the issue of the phosphor, I think the issue is  
25 whether or not the EP reference, and in particular the low-pressure mercury

1 lamp, satisfies the limitation of a VUV radiation excited light emitting  
2 device. And that's not clear from the teachings of EP 536, particularly when  
3 viewed from the perspective of one having ordinary skill in the art and the  
4 knowledge of what that device is. The Examiner is correct; it predominantly  
5 emits radiation at 254.

6           It also includes an emission at 185. But what she failed to  
7 realize and take into account is that the spectral irradiance of the 185  
8 nanometer emission is very low. Which is why the reference I believe  
9 would characterize the device as predominantly 254 nanometer emission.  
10 So my issue with the Examiner's rejection is the lack of clarity of the  
11 reference and the framework of the rejection that she's chosen to make as  
12 being anticipation.

13           JUDGE PAK: Any questions? Thank you for coming.

14           MR. CALLAHAN: Okay. Thank you.

15           JUDGE PAK: The case is submitted.

16           Whereupon, at approximately 9:29 a.m., the proceedings were  
17 concluded.